

NATURAL GAS PRICE VOLATILITY: AN UPDATE

Iowa Utilities Board

September 2004

The Iowa Utilities Board periodically reviews the overall market for natural gas. In particular, the Board has looked at the potential for natural gas prices to be volatile during the winter heating season. This paper provides an updated examination of market factors discussed in earlier reports and a current analysis of potential prices for the 2004-2005 heating season.

Summary

Last year the Board issued an alert that a confluence of conditions could add up to a very serious situation for the nation's natural gas customers. Although the confluence did not occur, during the 2003-2004 heating season, natural gas prices were still very high compared to levels customers had experienced in the past. While some of those conditions are not a serious concern at this time, they have been replaced by other factors that, once again, could add up to high prices for the coming winter with a chance for volatile prices. Storage supplies are better this year, but increases in demand for natural gas due to an improving economy, increased power-generation, and fuel-switching by industrial customers trying to avoid high oil prices have kept the price of natural gas at levels higher than \$6/MMBtu for much of the year, sometimes approaching \$7/MMBtu. Natural gas prices in the 2004-2005 heating season, for reasons discussed below, are again likely to be higher than customers have experienced in the past.

I. MARKET FORCES THAT IMPACT NATURAL GAS PRICES-Updated

Demand Factors

The main factor that impacts demand is weather, including weather in the non-heating season. Many of the electric generating units used in the United States for intermediate and peaking purposes (principally, for air conditioning on warm days) use natural gas for fuel. Warmer than normal weather means that those generating units are running more, using more natural gas—supplies that might otherwise be used to increase natural gas storage inventories. Much of the United States has experienced cool or near-normal temperatures this summer, and that has had a positive impact on storage levels.

Economic activity is also a major factor that determines the demand for natural gas. As commercial and industrial activity has increased, demand for natural gas has also increased. This increased demand has put additional pressure on the price of natural gas.

The price of alternate fuels is the other major demand factor that affects the demand for natural gas. In some industrial processes, manufacturers can either burn natural gas or some type of oil. As oil prices have increased, many manufacturers have switched to natural gas from oil. Given the delicate balance between current supplies of natural gas and the demand for it, as oil prices have risen, prices for natural gas have also increased. In the near term, natural gas prices seem likely to move with oil prices.

Supply Factors

The supply factor that most influences the price volatility of natural gas is storage inventories. Low levels of storage can cause perceptions of shortage and lead to higher prices. The latest Energy Information Administration (EIA) *Weekly Natural Gas Update (Update)* reported that natural gas inventories are above the 5-year average. Assuming there are no major supply disruptions, storage levels are expected to be adequate for the coming heating season.

As mentioned earlier, above normal temperatures during the summer can hurt efforts to build natural gas inventories. Another weather factor that can hurt efforts to increase inventories is hurricanes. One of the main gas producing regions is the Gulf Coast. The hurricane season has begun and any major storms in that region could result in decreased production and smaller amounts injected into storage.

There are other factors that impact supply such as the number of drilling rigs exploring for natural gas and increased supplies of liquefied natural gas (LNG), but they tend to affect longer-term supplies and prices. Producers and exploration companies have had a large number of drilling rigs exploring for natural gas during the past two years. However, they have only been able to replace a portion of the long-term natural gas reserves used during that time. Interest in supplies of LNG remains high, but the location of new facilities is a problem. Many communities and areas do not want them because of the potential danger in case of an explosion. Even if this problem is overcome, it will be several years before significant additions to supply can be added via LNG.

II. CURRENT AND FUTURE PRICES

Market prices for natural gas have been higher than levels for much of last year. Last year, storage levels were recovering from record lows and there was concern that supplies would not be adequate for the coming heating season. Thanks to favorable weather patterns and record levels of injections, adequate storage inventories were achieved, and market prices declined as supply concerns eased. Summer prices are important for Iowa's natural gas utilities. Although natural gas customers use relatively little gas in the summer, the utilities are busy storing gas, readying themselves for the upcoming winter. Iowa's gas utilities store approximately 25-30 percent of their normal winter weather gas deliveries during the non-heating season, May-October. As gas prices eased last summer, the cost of mid-to-late storage season injections fell. Since different drivers have affected summer 2004 prices, it would be difficult to predict natural

gas market behaviors. If current prices persist through the remainder of the storage injection season, the cost of the 25-30 percent of gas delivered to customers from storage inventories next winter could be a double digit percentage increase over last year's gas from storage.

This year's price levels are not based on concerns about storage supplies, but are due to increased demand from industry and power generators, and the increased price of competing fuels (oil). Industrial demand is expected to remain strong as the economy continues to expand and the price of oil remains high. Unless the price of oil declines significantly and/or weather patterns are more favorable than expected, the price of natural gas could easily remain at relatively high levels. This could result in end-use prices to customers higher than last winter's prices.

III. Actions Taken By Iowa's Investor-Owned Natural Gas Utilities (LDCs)

The Board maintains close contact with natural gas LDCs on issues related to customer bill volatility and overall price levels. Each of the utilities has a plan, known as a hedging plan, to manage the risk of customer bill volatility. These plans include their gas storage efforts discussed above, plus financial hedges that cover approximately 30-40% of their supply. The remaining quantities are purchased in the open market. Board Staff has had in-person hedging plan meetings and additional phone conversations with each of those utilities. Each utility also has a Board-approved energy efficiency plan.

The Board is generally satisfied with utility risk management activities, as exercised through their hedging plans. However, it should be noted that hedging only deals with price volatility, not with broad, long-term trends in market supply and demand factors, such as those that have taken place over the last several months. Hedging plans have their place because they can help deal with unexpected short-term price changes. However, factors affecting prices that are beyond utilities' control are at work in the U.S. natural gas marketplace. Neither hedging plans nor other unilateral actions by utilities should be expected to deal completely with the prices customers may face this winter.

The Board will continue to monitor the factors that would affect the price of natural gas this coming winter. The Board believes many, and hopefully most, customers are once again aware of the potential for high natural gas bills this coming winter. The Board will provide further updates on natural gas issues over the next several months, as conditions warrant.